Amendments to the Specification:

Replace the title of the invention on page 1 with the following new title:

CYCLODEXTRIN-CONTAINING PRESSURE-SENSITIVE ADHESIVES

Replace the first paragraph on page 1 with the following new paragraph:

This invention relates to pressure-sensitive adhesive compositions containing cyclodextrins. By the term "pressure-sensitive adhesive" is meant those adhesives that have touch-perceivable tack, that are easily deformed in the time scale allowed for bond formation, and that are capable of being applied and bonded to the substrate at temperatures no higher than about 50°C, and preferably at ambient temperatures. Pressure-sensitive adhesives are employed in many fields. Pressure-sensitive adhesives are used, *inter alia*, as components of labels, industrial tapes, postage stamps, stationery products, and in medical products such as surgical drapes, tapes, ostomy products, wound care products, and devices for transdermal drug delivery.

Replace the second paragraph on page 1 with the following new paragraph:

This invention relates particularly to pressure-sensitive adhesives used in contact with skin and more particularly to the class of medical pressure-sensitive adhesives that are generally termed hydrocolloid adhesives. Most particularly, the invention relates to adhesives that are able to absorb odours associated with body fluids and/or wounds, and to adhesives that have improved ability to deliver active ingredients to wounds or skin.

Beginning with the third paragraph on page 1 and ending with the first paragraph on page 2, replace the text as follows:

Hydrocolloid adhesives are a unique kind of medically useful pressure-sensitive adhesives. They have usually two phases - a rubbery phase which provides pressure-sensitive

tack, sometimes called "dry tack" and, dispersed within the continuous rubbery phase, a discontinuous phase of absorbent material. Depending upon the nature of the absorbents, and especially whether the absorbent is soluble in aqueous media or merely swellable, the adhesive composition can develop "wet tack" and as it becomes imbibed with fluid. Such wet tack can also incluence the adhesive power of the hydrocolloid. Hydrocolloid adhesives thus have a duality of attributes in that they are inherently adhesive and inherently absorbent. They are useful as wound dressings because they can be applied directly to open wounds and can be secured on the surrounding intact skin, and as skin barriers because they protect the peristomal skin of ostomy patients. Hydrocolloid adhesives maintain the skin in a normally or optimally hydrated condition. Optimally hydrated skin is less subject to irritation and injury from repeated application and removal of adhesives than is macerated skin, which latter can result from the use of conventional pressure-sensitive adhesives on the skin.

Beginning with the third paragraph on page 2 and ending with the first paragraph on page 3, replace the text with the following:

It is often desired to add small quantities of an agent to a medical pressure-sensitive adhesive to confer additional benefits. For example, skin problems are common for persons who have a stoma, which is an artificial body opening produced as a result of a surgery. PCT Application WO 98/01167 discloses, in this regard, a hydrocolloid pressure-sensitive adhesive containing an amount of aloe vera up to 5wt% which is said to offer [a] better protection of the skin against the aggressive action of excreted substrates. Again, in European Patent Specification No. 0 023 395 B1, mention is made of pressure-sensitive adhesives containing a broad spectrum of antimicrobial agent. In this prior art, the antimicrobial agent is dissolved in a suitable solvent and dispersed in the said pressure-sensitive adhesive to give a two-phase system, which is said to release the antimicrobial agent in a controlled way.

Replace the third paragraph on page 3 with the following new paragraph:

According to a first aspect of the present invention, there is provided a pressure-sensitive adhesive composition comprising a rubbery continuous phase and a discontinuous phase, wherein the discontinuous phase comprises 0.1 to 65 wt%, preferably at least 5 wt% of a cyclodextrin material, and optionally a hydrocolloid other than a cyclodextrin, said percentages being based on the total composition. The preferred minimum of cyclodextrin in a composition, according to this aspect of the invention, is 10 wt%. The discontinuous phase in total preferably comprises 5 to 70wt% of the total composition, more preferably 10 to 60wt%.

Beginning with the fourth paragraph on page 3 and ending with the first paragraph on page 4, replace the text with the following:

A further aspect of the present invention relates to constructions comprising a layer of cyclodextrin-containing hydrocolloid adhesive that further contains an effective amount of one or more active ingredients. Hydrocolloid adhesives are particularly suitable as the basis for such constructions, because of their ability to maintain the skin in a normally or optimally hydrated condition. Often, such skin patches will be applied to the skin over an extended period, and hydrocolloid adhesives will maintain the skin in a healthy condition. As non-limiting examples of what is contemplated, the active ingredient may be an antibacterial or antifungal compound, a compound such as hydroquinone, a compound such as an essential oil, for example tea tree oil, or mixtures of essential oils, a compound such as salicylic acid, a compound such as menthol, or a fragrance composition. Hydrocolloid adhesives containing such active ingredients can be made into, for example, skin patches that will deliver the active ingredient to the skin surface. The advantage of using cyclodextrin complexes of these active ingredients is that often the active ingredients are labile, or not soluble, or not stable, or may interact with other ingredients in the formulation. Inclusion of these active ingredients within the molecular structure of the cyclodextrins provides an effective way of insuring delivery to the target skin site. It will be understood that, within the scope of the invention, the active ingredient does not have to be

complexed within the cyclodexterin molecule - it can also be present in a free, or uncomplexed, state. The cyclodextrin will function in such cases as odour absorbing means, and/or as absorbing means. In the case of compositions containing more than one active ingredient, again the complexing of one or more of the active ingredients within a cyclodextrin molecule is optional.

Beginning with the second paragraph on page 4 and ending with the first paragraph on page 5, replace the following text:

Complexing is a preferred feature, and according to a further aspect of the invention there is provided a pressure-sensitive adhesive composition containing 1 to 10 wt% of cyclodextrin, all or part of which is complexed with one or more active ingredients of this composition.

Replace the second paragraph on page 5 with the following new paragraph:

Non-limiting examples of prior art hydrocolloid compositions suitable for use as bases for the reduction to ~~practise~~ practice of the present invention, with appropriate modification in accord with the teachings herein described, are given in US Patent 3,339,546, US Patent 4,231,369, US Patent 4,477,325, US Patent 4,738,257, US Patent 4,551,490, US Patent 4,192,785, US Patent 4,952,618, all of which patents are incorporated herein by reference.

Beginning with the third paragraph on page 5 and ending with the first paragraph on page 6, replace the text with the following:

The present invention also provides skin barriers and wound dressings comprising a layer of hydrocolloid adhesive containing an effective amount of a cyclodextrin and which is backed by a non-adhesive, waterproof film to form a skin barrier or dressing. The skin barrier is used in a number of ways. One of these is for wound dressing purposes. Patients in institutional settings such as hospitals and nursing homes often have or acquire chronic wounds such as venostasis ulcers and bed sores, and these wounds can possess a very offensive odour. Bandages or dressings made from or incorporating the compositions of the invention are able to absorb odour

molecules and thereby reduce or eliminate the offensive odour. This contributes to the well-being of the patient as well as to the nusing staff and other patients, since the odours from chronic wounds can be offensive to both ~~carers~~ caregivers and to the family members of the patient. Another important use is for the protection of the skin around body openings, especially around the surgically created openings known as colostomies, ileostomies, and urostomies. Collectively, these surgically-created body openings are often termed stomas. The novel skin barriers of the invention are able to absorb the odour molecules that are associates with faeces and urine and thus, are able to assist in the control of the odour that is associated with stomas. This can increase the self-confidence of the patient because such odours can be a source of personal embarrassment. While not wishing to be bound by any particular theory, it is believed that the cyclodextrin molecules are able to absorb malodorous molecules, which become complexed within the toroidal structure of the cyclodextrin molecule.

Replace the second paragraph on page 6 with the following new paragraph.

~~One yet~~ A further aspect of the invention relates to incorporation of cyclodextrin materials into pressure-sensitive adhesives based on hydrophilic polymers, which will usually, though not necessarily, be crosslinked. These materials are commonly termed hydrogels, and can form the basis of medical pressure-sensitive adhesives. With hydrogels, the pressure-sensitive adhesive property is achieved by plasticisation of the polymer with water and/or a hydrophilic plasticiser, and thus the cyclodextrin is completely soluble in the plasticising medium. Thus, the possibility exists with this adhesive system for cyclodextrin-containing pressure-sensitive adhesive that has only one phase.

Beginning with the third paragraph on page 6 and ending with the first paragraph on page 7, replace the text with the following:

Adhesives containing fragrance compositions are very useful to mask the bad odours associated with the presence of urine and faeces on the skin, which can occur with ostomy patients. Often, fragrances can be irritating to the skin, or can cause allergic reactions. When the

fragrances are first complexed with a cyclodextrin material, the fragrance is released when the cyclodextrin becomes moist, and the amount liberated is controlled by the rate and amount of moisture ingress. In this way, any irritation potential or allergic response with the particular fragrance is ~~minimised~~ minimized or eliminated.

Replace the second paragraph on page 7 with the following new paragraph:

The introduction of cyclodextrins, in combination with certain "active compounds", into pressure-sensitive adhesives is known and is reported in the prior art.

Replace the third paragraph on page 7 with the following new paragraph:

For example, Japanese Patent Application JP 6158002A, to Sekisui Plastics Co., describes an antibacterial, pressure-sensitive adhesive for food containers, wherein isothiocyanuric acid ester is complexted with β-cyclodextrin and added to a pressure-sensitive adhesive which is then adhered to the inside surface of the food container to control bacterial and fungal growth.

Replace the fourth paragraph on page 7 with the following new paragraph:

US Patent 5,352,717 to American Maize Technology Inc. teaches adhesive or sealant compositions containing a small amount of cyclodextrin. Some examples also have, as an optional component, a blowing agent to expand the adhesive to a foamed material for industrial uses. Although one of the examples talks to a "pressure sensitive adhesive", the exemplified adhesive is said to be applied at temperatures of 160°C[[.]], as are the other examples, which are clearly directed at hot melt adhesive compositions, outside the contemplated area of interest of the instant invention.

Replace the fifth paragraph on page 7 with the following new paragraph:

US Patent 4,978,532 to Pharmedic Co. describes a dosage form for the administration of dehydroepiandrosterone (DHEA). The dosage form comprises a medical grade silicone pressure-sensitive adhesive, DHEA and a permeation enhancer, an example of which is hydroxypropyl-β-cyclodextrin.

Replace the first paragraph on page 8 with the following new paragraph:

Also of interest is the US Patent 5,562,917 to Pentech Pharm Inc. that claims a composition suitable for the treatment of Parkinson's disease involving the transdermal delivery of apomorphine in an aqueous based gel. Specified is a permeation enhancer which includes hydroxypropyl-β-cyclodextrin. Also specified is a matrix of silicone copolymer pressure-sensitive adhesive, 0.1 - 3wt% of apomorphine and a carbocyclic compound having pendant hydroxyl groups selected from butylated hydroxyl anisole, butylated hydroxyl toluene, and hydroxypropyl-β-cyclodextrin as a permeation enhancer.

Beginning with the third paragraph on page 8 and ending with the first paragraph on page 9, replace the text with the following:

PCT Application WO 99/06078 discloses cyclodextrin odour absorbent articles for decreasing odours associated with body fluids, where the cyclodextrin has a specific particle size. PCT Application WO 98/56890 teaches the combination of aqueous cyclodextrin compositions with wrinkle control agents for odour and wrinkle control of fabrics. PCT Applications WO 98/17239, WO 98/17240, WO 98/56341 and WO 09/56342 describe an aqueous carrier containing soluble cyclodextrins, perfume compositions and preferably hydrophobic antimicrobial compounds in order to reduce body odour and/or environmental odour. PCT Applications WO 98/18439 and WO98/56340 reveal similar compositions in a

powder carrier such as a starch. PCT Application WO 98/56339 describes similar compositions in a two-phase formulation comprised of an aqueous phase and an oil phase.

Replace the second paragraph on page 10 with the following new paragraph:

What becomes evident from a reading of the prior art is that, notwithstanding the very great amount of art that exists concerning cyclodextrin-containing materials, nowhere in the literature is reported the use of cyclodextrins as an integral component in pressure-sensitive adhesive compositions.

Replace the third paragraph on page 10 with the following new paragraph:

Concerning odour absorbent adhesives, there appears to be little or no prior art. Japanese Application 10168348A to Kodaijin Sugaoka KK does disclose incorporation of cristobalite as a component of wall coatings, which also contain pressure-sensitive adhesives, and the cristobalite is said to absorb foul odours. But the finished composition is not itself pressure-sensitive adhesive; indeed, it is said to resemble Japanese lime plaster.

Beginning with the fourth paragraph on page 10 and ending with the first paragraph on page 11, replace the text as follows:

McNeil-PPC Inc. in US Application 93168550 A disclose panty liners in which a pressure-sensitive adhesive is applied to an absorbent structure containing baking soda to absorb odours. Plasto SA, in German Application 19724871 A1, claim a laminated structure comprised of a polyolefin film having dispersed in it a perfume, and coated on one side with a pressure-sensitive adhesive. Such a structure will obviously serve only to mask an odour, and the perfume is in the film, not in the adhesive. Schering Plough in US Patent 5,399,404 teach a patch for masking foot odours comprising a carrier on one side of a non-occlusive layer which contains fragrance and a pressure-sensitive adhesive on the other side of the carrier to secure the patch to the foot or shoe. In PCT WO 9423766 A1, Schering Plough also discloses a ~~deodoriser~~ deodorizer for masking foot and shoe odours comprised of a pressure-sensitive adhesive

laminated to a felt which contains a perfume. Kock in Canadian Application 2041278 A describes a disposable perspiration-absorbing pad, which can be adhered to clothing and adjusted in size and shape, and, which contains an odour absorbing or perfumed layer.

Replace the second paragraph on page 11 with the following new paragraph:

In none of the above prior art is there any reference or suggestion that the pressure-sensitive adhesive component is itself odour absorbing, or which itself delivers a perfume.

Replace the third paragraph on page 11 with the following new paragraph:

What is surprising and unexpected in the instant invention is that, if cyclodextrins are employed as the integral absorbent filler, or as part of the integral absorbent fillers[[,]] in hydrocolloid adhesives, the resulting compositions have a unique and wide versatility. They are capable of adhering to surfaces, absorbing fluids, absorbing odours, providing a fragrance, and delivering active substances. There is no indication or suggestion in the literature to add or incorporate cyclodextrins into hydrocolloid adhesives, nor any indication or suggestion that such addition should yield the advantageous results of odour control and reduction. Further, ~~is~~ there is no suggestion or indication that fragrances, and many active ingredients, may advantageously be delivered to the skin by incorporated them into such cyclodextrin-containing hydrocolloid adhesives.

Beginning with the fourth paragraph on page 11 and ending with the first paragraph on page 12, replace the text with the following:

The adhesive of the invention comprises any suitable pressure-sensitive adhesive matrix known in the art and having hydrocolloid particles and/or cyclodextrins dispersed or dissolved therein. The permanently tacky pressure-sensitive adhesive components must be tacky at room temperature, as well as at the skin temperature of patients. Also, the adhesive must be dermatologically acceptable, which means that after continuous contact with the skin there is little adhesive residue upon removal and there is no significant reaction with the skin during the

adhesion period. The adhesive strength of the continuous phase must be sufficient to adhere to the skin of the patient for the time determined by the use of the medical device of which the adhesive forms part. Other ingredients such as tackifiers, plasticisers, and polymer stabilisers may be added to the continuous rubber phase, to modify tack and ~~optimise~~ optimize adhesion properties, and to protect polymers from degradation during processing.

Replace the second paragraph on page 12 with the following new paragraph:

The adhesive matrix may be used on, for example, polyisobutylene, butyl rubber, polyacrylates, polyurethanes, silicone gum, natural gum rubber, SBR rubber or polyvinyl ether. Thermoplastic elastomers such as styrene-isoprene-styrene block cpolymers and styrene-ethylene-propylene-styrene block copolymers may be used, and these may require optional tackifiers and plasticisers. Blends or mixtures of elastomers may be employed. Conventional additives such as tackifiers, softeners, plasticisers and antioxidants may be present to modify, adjust, and stabilise the adhesive and other properties of the matrix. The amount of adhesive matrix with respect to the total composition will generally be from 35wt% to about 99wt% or more. Hydrophilic polymers, such as are used in hydrogels, may also form the basis of the pressure-sensitive adhesive matrix.

Beginning with the third paragraph on page 12 and ending with the first paragraph on page 13, replace the text as follows:

Suitable hydrocolloids for use in the adhesives in conjunction with the cyclodextrins are naturally occurring hydrocolloids such as pectins, guar gum, karaya gum, locust bean gum, carageenan, tragacanth gum, alginates, xanthan gum, modified naturally derived substances such as sodium carboxymethyl cellulose, synthetic materials such as polyvinylalcohol, polyoxyalkylene polyols, polyvinyl pyrollidone, and animal derived materials such as gelatine. Ionic hydrocolloids such as hyaluronic acid, chitosan salts or DEAE Dextran may also be employed. The hydrocolloids may be water absorbable or water swellable, and combinations of one type or of various types may be used in any ratio. A hydrocolloid, in addition to

cyclodextrin, may be used in an amount from 0wt% to 60wt% or more, and when combined with the cyclodextrin component the aggregate of the two will amount to from 0.1wt% to 65wt%.

Beginning with the second paragraph on page 13 and ending with the first paragraph on page 14, replace the text as follows:

The term cyclodextrin, as used herein, includes any of the known cyclodextrins. Cyclodextrin materials are cyclic oligosaccharides containing a minimum of six D-(+)-glucopyranose units attached by α - (1 > 4) glucosidic bonds. Three cyclodextrins called α, β and γ are naturally occurring and have, respectively, six, seven and eight glucose units. Cyclodextrins are known that contain up to twelve glucose units. Cyclodextrin materials can also be manufactured from starch by enzymatic degradation. In addition, many synthetic modifications of the natural ~~material~~ materials are known, for example methyl-β-cyclodextrin and hydroxypropyl-β-cyclodextrin. The conformations of the cyclic structures of these molecules are such that the molecules are arranged in rigid conical molecular shapes that have hollow interiors of very well defined sizes. These internal cavities are hydrophobic in nature because the interior of the toroidal shape is predominantly made up of hydrogen atoms. The interior shapes of the cyclodextrins are able to form inclusion complexes, sometimes referred to as "host-guest" complexes, or clathrate compounds, with organic molecules which fit, completely or partially, into the cavities defined by the toroidal shapes. For example, odiferous molecules can fit into the cavities. This includes both perfumes and malodorous compounds. Cyclodextrins therefore, and especially mixture of cyclodextrins with cavities of different sizes, can be used to control odours. With respect to odour control, there is scope for two different approaches within the present invention. First, uncomplexed or free cyclodextrins, dispersed within the adhesive matrix, can be used to absorb malodours. Second, perfumes can be precomplexed with cyclodextrins and then formulated in the final adhesive. The perfume is then released *in situ* and will mask the undesirable odour. (Once a cyclodextrin molecule has released its precomplexed perfume molecule, it is then available to complex a malodorous molecule). The complexation of odorous molecules by cyclodextrin, and the release of precomplexed

perfume molecules from cyclodextrin, are facilitated by the presence of water. It will be understood that the water necessary to facilitate such release of perfume and complexing of malodour by the cyclodextrin is present in the contaminating urine or faeces, and/or is released by the skin through normal transpiration, and will be absorbed by the adhesive.

Replace the second paragraph on page 14 with the following new paragraph:

The choice of cyclodextrin employed in a given formulation will be decided on the basis of the properties desired in the finished product, and the specific role that the cyclodextrin is fulfilling. Unmodified β-cyclodextrin is not very water soluble and is generally not preferred if high absorbancy is needed. α-cyclodextrins, γ-cyclodextrins and certain modified β-cyclodextrins are more water absorbent. Mixtures of cyclodextrins are often preferred, because these will absorb a wider range of malodorous molecules than will a single cyclodextrin. The cyclodextrin to be used for a specific complex will, of course, be determined by the size and shape of the active molecule to be complexed.

Replace the first paragraph on page 15 with the following new paragraph:

Any active ingredient may be considered for addition to the formulations anticipated by the instant invention. By active ingredient, we mean an ingredient that is not essential to the functioning of the formulation as a moisture and odour absorbing pressure-sensitive adhesive. An active ingredient is added to confer an additional benefit to the formulation. It is not necessary that the active ingredient ~~first is~~ is first complexed with a cyclodextrin prior to mixing into the formulation, nor indeed that it complexes with a cyclodextrin at all, although it will generally be advantageous if the active ingredient is so complexed. The following active ingredients exemplify the scope of the invention, and represent a non-limiting list of active ingredients.

Beginning with the second paragraph on page 15 and ending with the first paragraph on page 16, replace the text as follows:

Aspirin, benzocaine, benzyl alcohol, butamben picrate, camphor, camphorated metacresol, chloral hydrate, chlorabutanol, chloraxylenol, cyclomethycaine sulphate, dibucaine, dibucaine hydrochloride, dimethisoquin hydrochloride, diphenhydramine hydrochloride, dyclonine hydrochloride, eugenol, glycol salicylate, hexyl resorcinol, hydrocortisone, hydrocortisone acetate, juniper tar, lidocaine, lidocaine hydrochloride, menthol, methapyrilene hydrochloride, phenol, phenolate sodium, pramoxine hydrochloride, resorcinol, resorcinol monoacetate, salicylamide, tetracaine, tetracaine hydrochloride, thymol, triethanolamine salicylate, tripelennamine hydrochloride, allyl isothiocyanate, ammonia, capsaicin, eucalyptus oil, histamine dihydrochloride, methyl nicotinate, methyl salicylate, turpentine oil, allantoin, calamine, dimethicone, glycerin, kaoline, petrolatum, shark liver oil, zinc acetate, zinc carbonate, zinc oxide, hydroquinone, quinine sulphate, ~~vitamine~~ vitamin E, pregnenolone acetate, progesterone, salicylic acid, clioquinol, haloprogin, miconazole nitrate, tolnaftate, undecylenic acid, benzoyl peroxide, sulphur, povidone iodine, benzalkonium chloride, benzethonium chloride, methylbenzethonium chloride, trichlosan, trichlocarban, chlorhexidine gluconate, bacitracin zinc, neomycin sulphate, glycolic acid, tea tree oil, and lavender oil.

Replace the third paragraph on page 16 with the following new paragraph:

Other components, such as chemical agents that facilitate release of active ingredients from the adhesive formulations, for example plasticisers and solvents for the active ingredients, ~~be~~ can optionally be present. Also, agents that promote absorption of active ingredients by the skin[[,]] may optionally be added to the formulation. Non-limiting examples of such skin permeation enhancers are isopropyl myristate, oleic acid, propylene glycol and laurocapram. Other optional ingredients, such as small amounts of pigments or colourants, may also be present in the compositions.

Replace the second paragraph on page 17 with the following new paragraph:

Procedure

Make the test panel self-adhesive using double coated tape. Laminate the hydrocolloid adhesive on the test panel. Place the test panel with hydrocolloid in the lower clamp of a tensile testing machine. Program the tensile tester. Place a polyester test strip of thickness 125 μ (5 mils) and dimensions (21 cm x 2.54 cm) in the upper clamp, making sure that the total length of polyester under the clamp (loop) is 15 cm. Remove the release liner from hydrocolloid and start the measurement.

Replace the third paragraph on page 18 with the following new paragraph:

Procedure

Condition the hydrocolloid samples at 23 $\pm$ 1 and 50 $\pm$ 2% relative humidity for 24 hours. Clean the SS hear panel with solvent. Cut a hydrocolloid strip of 25.4 mm width and 5 mm length. Reinforce the hydrocolloid strip with reinforcing tape. Laminate the hydrocolloid strip on the test panel using an overlap surface of 1 inch^2. Protect the free hydrocolloid with a release liner. Put a weight of 500 g on the laminate for 1 hour. Reinforce the free hydrocolloid adhesive zone with reinforcing plastic and perforate. Place the test panel with hydrocolloid on the shear bar using a shear weight of 500 g. Re-zero the registration-clock. Note the time on the clock when sample falls of under the influence of the 500 g. ~~Weight~~ weight.

Replace the paragraph on page 23 (preceding the two tables) with the following new paragraph:

Example 5

The hydrocolloid adhesive of Example 3 is laminated to a spun laced nonwoven fabric which had previously been waterproofed and coated with a medical grade acrylic pressure-

sensitive adhesive. The acrylic adhesive functions as a tie layer to bond the hydrocolloid adhesive to the polyester fabric. Such an acrylic adhesive coated nonwoven fabric is available commercially from Smith & Nephew plc as Lasso SA72.

Replace the second paragraph on page 33 with the following new paragraph:

Example 13

This example shows the incorporation of cyclodextrin into a pressure-sensitive adhesive formed from a hydrogel.